

M/COV/0067
Outgoing

Peter Brinton <peterbrinton@utah.gov>

Adit- ITDF

Peter Brinton <peterbrinton@utah.gov>

Tue, Sep 16, 2014 at 9:36 AM

To: Leslie Buhler <lbuhler@csmining.com>

Cc: Paul Baker <paulbaker@utah.gov>, David McMullin <DMcmullin@csmining.com>

Hi Leslie, Thanks for the photographs of the adit. Here's some additional information that we will ask you to provide as a report to the Division:

- 1) the location of the adit (metric UTM coordinates preferably),
- 2) description of the position of the adit relative to the tailings impoundment and embankment, including horizontally and vertically (such as distance above the edge and bottom of the impoundment)
- 3) the approximate width and height of the adit underground (not the current opening dimensions related to the loose rock that is partially backfilling the adit near the opening). This will likely require clearing the opening of loose rock, as the state's Abandoned Mines program's approved closure drawings indicate.)
- 4) information on the approximate extent and dimensions of the underground workings accessed from this location (such as whether there is a single drift into the hill or whether side cuts are known, and if any other surface access to these workings is known)
- 5) whether underground shafts are present in the workings;
- 6) a discussion of the general implications relating to the extents of the workings as derived from the amount of waste material present at the surface,
- 7) post-closure reporting of the closure methods and steps, any problems encountered during closure, any changes from the anticipated closure method, whether closure was determined to be successful, and other details (such as the approximate backfill dimensions, equipment used, any specific actions taken to prevent any potential tailings impoundment liner problems at this location, etc).
- 8) identify the general nature of the loose waste rock and outcropped rock at the surface, such as the general rock type, the general observed structural competency of the rock (e.g. stability of the tunnel), whether it appears to be pyritic or not, etc,
- 9) a photo of the waste material dumped at the surface (prior to backfilling)

Other recommendations and considerations:

- The general closure plans that has been approved by the state's Abandoned Mines program were not designed specifically to have a tailings impoundment constructed on top of the closed openings.
- Ensure that the adit is closed adequately so that the liner or liner welds at or near this location will not be punctured, excessively stretched, or otherwise damaged in such a way that could result in fluids leaking through the liner.
- Be safe. If you have concerns about anything I've asked from a safety standpoint, please let me know.

Thanks for keeping us in the loop, and feel free to discuss further or ask additional questions.

Peter

On Tue, Sep 16, 2014 at 8:15 AM, Leslie Buhler <lbuhler@csmining.com> wrote:

Peter,

Thank you for the information. I believe you are right about using the Dwg01_Adit Backfill Closure.pdf. The adit will lie directly under the liner. I have attached some pictures of the adit before it is backfilled. I will also take pictures when it is done. I went out yesterday and GPS'd the coordinates of the adit so we can put it on future maps.

Thanks again!

Leslie Buhler

Land & Permitting Manager

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From: Peter Brinton [mailto:peterbrinton@utah.gov]

Sent: Monday, September 15, 2014 5:47 PM

To: Leslie Buhler

Cc: Paul Baker

Subject: Re: Adit- ITDF

Hi Leslie,

Attached are some of the general and standard adit closure requirements of the Division's abandoned mines program, including drawings of backfill closures, which are probably the most appropriate if done right.

I don't remember hearing details of your adit specifically (I believe it's small and doesn't have vertical openings?), and this adit is a little atypical, given that it underlies the future ITDF. So I think it's wise to take extra precautions to make sure it's well plugged (material packed in hard), etc. in order to avoid scenarios where subsidence or a puncture or other problems might cause leaking. The backfill closure is probably the best option. See the attached

Dwg01_Adit Backfill Closure.pdf, for example.

Will the adit lie directly under the liner, or under an embankment? That is something to consider as well.

I spoke with someone in the abandoned mines group, and we thought that packing material at least 10 feet into the hole (as measured at the ceiling of the adit) would be a good idea, if the adit opening is less than 5 feet high. Otherwise, the dimensions on the attached drawings should be appropriate, if the material is well-packed in the adit.

The backfilled adit location is something that should be shown on future versions of the maps.

Peter

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Peter Brinton

Environmental Scientist/Engineer II

Utah Division of Oil, Gas & Mining

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Days: M - Th, Every Other Friday

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Good Afternoon Peter,

We have been discussing the adit that needs to be backfilled where the new Intermediate Tailings Disposal Facility (ITDF) is going to be. Nobody on the project is familiar with backfilling an adit. Do you have any recommendations or procedures that you can recommend? Grubbing is estimated to start tomorrow on the ITDF so we need to get this done ASAP. Any advice or information you can give would be greatly appreciated. I tried to Google a procedure, I have attached what I found.

Best Regards,

Leslie Buhler

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